HIGHER MEDICAL EDUCATION IN NEW YORK

III

THE SYSTEM OF CLINICAL TEACHING IN COLLEGES

BY

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I include clinical teaching in medical schools under the general head of higher medical education for two reasons:

First, for the general reason that clinical study logically follows the elementary medical studies, and is continued, after graduation, *ad infinitum.*

Second, because I am quite sure that a number of clinics in every college are attended by practitioners for the purpose of learning things that are new, or things which have practical importance.

It is my purpose to show (1) that the vast material at the disposal of clinical instructors in New York is not utilized in such a way as to afford the advanced medical student systematic instruction in the different departments of medicine, and (2) that, so far as I know, no attempt is made to coördinate the clinical and didactic lectures during the course of study.

A college clinic is usually organized as follows: a clinical professor or lecturer has charge of the clinic, assisted by two or more younger physicians. The attendance of patients varies according to the punctuality of the physicians and the care and considerate treatment they bestow upon patients,—usually there is an abundance of "material," as we call it. As a rule, no case-books are

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kept, and the large majority of patients are seen only by the clinical assistants. A few minutes before the time appointed for the lecture the professor asks his assistants for "interesting" cases, or sometimes selects them himself. In the lecture-room a series of three, four, or five such cases is shown to the class without classification. In a medical clinic, for example, cases of rheumatism, paralysis, phthisis, etc., may be considered in one hour's time. Occasionally, for some lectures requiring subjects to submit themselves to painful or annoying demonstrations before the class, patients are sought beforehand. Inevitably, during a session, the student sees a most tiresome repetition of cases under such an unsystematic plan; cases of dyspepsia or rheumatism may be paraded *ad nauseam* before the class.

There are other serious defects in our college clinics. Nearly always the professor lectures upon an unstudied case, and is obliged to pass over a number of important data necessary for accurate differential diagnosis. For example, a case of headache is talked about before the class without the necessary examinations of the urine, of the state of optic refraction, etc.,—elements which are often indispensable to a correct judgment. In many cases there are delicate questions to be asked about sexual symptoms, syphilis, etc., which many patients will never answer truthfully in public. Often, too, dealing with almost unknown cases, the teacher spends a quarter of an hour or more in extracting a tangled history of symptoms from a patient, and then realizes that the case is unimportant, or at any rate pointless for clinical purposes.

Very often the clinical remarks made are mere remarks, a desultory talk about the cases, others like it, their treatment, etc., showing on the professor's part a total want of appreciation of the functions of a college clinic.

Another evil of our present plan is that cases are seldom shown a second and third time after a first study in public. This is often unavoidable, as clinic patients are provokingly uncertain in their attendance. Still, by care and by the aid of clinical assistants or of medical students, the cases can be hunted up and induced to

come again to enable the class to observe the progress of a disease or the action of remedies.

It has long seemed to me that however inferior college clinics must be to hospital clinics held over bed-ridden patients, much more instruction might be extracted from them than is now done.

This improved teaching might be attained by applying the following propositions to clinical work :

I. Recognizing that the principal function of an "out-door" clinic, or college clinic, is to afford students an opportunity of studying methods of examination and the diagnosis of diseases.

Considerations of pathology and of therapeutics, except, perhaps, in surgical and special clinics, should be relegated to the background, and made prominent only in cases of simplicity, or cases which are likely to return to the clinic.

Under the head of methods of examination, I would include teaching the art of questioning a patient so as to obtain the data for a history of his case and for a diagnosis. This embraces a peculiar kind of logic, a train of silent reasoning which the expert examiner is carrying on all the time while talking with the patient, and which enables him, by the aid of past experience, to follow up useful clues and take up at the proper moment hints which the patient may, perhaps unconsciously, have dropped in his replies. In many cases a conversation of ten minutes enables the professor to seize the capital symptoms and the etiological factors of a case, and to write them upon the blackboard for further use in discussion. This logic of examination varies in each department of medicine, being in some cases superior to the physical examination, while in others it is subordinate.

It is also desirable that the clinical teacher should briefly describe all the instruments which he uses in examining organs and testing functions, and give repeated demonstrations of their use.

A most important, perhaps the most important, subject of study at such a clinic is what I may call analytical semeiology. By this I mean the accurate definition and close analysis of symptoms. How often do we hear physicians of experience speak of symp-

toms in such a way as to show that they do not really understand those signs, those characters through which a disease is classified; for example, what confusion about the terms numbness, ataxia, hallucination, etc. Besides an accurate definition of a symptom, and its demonstration when possible, the teacher should explain to the student the anatomical basis of the symptom, and the physiological function of which the symptom is (often) the perverted expression. This opens a wide and legitimate field for giving students repeated lessons in those portions of anatomy and physiology which the practical physician must know at his fingers' ends. Such a study of the anatomical and physiological basis of symptoms also opens the way in several departments of medicine (diseases of the thoracic organs, of the nervous system, etc.) to accurate regional diagnosis, or diagnosis of localization of disease.

Next in order of exposition comes the mode of grouping, or association of symptoms. This should be taught both positively and negatively, and in so doing there will be ample opportunity to show how delusive and misleading is the so-called "pathognomonic symptom." By the positive mode of studying the association of symptoms, I mean showing how symptoms and so-called physical signs obey certain tendencies of association and form a "symptom-group," which though not the disease itself, yet often serve for its classification and demonstration. By the negative study of symptoms in their relations with other symptoms, I mean showing how one symptom may be a part of several disease symptom-groups, and may even be caused by fundamentally different pathological conditions.

An improvement which I would suggest in college clinical teaching, and it seems to me of considerable importance, is the much greater use of the blackboard. Now, in most clinics, the blackboard is only used for normal and pathological sketches or diagrams. What I think should be generally done is, with the aid of several blackboards, to write down (1) a summary of the history of the case, (2) a summary of the chief symptoms as observed in the patient, (3) the necessary anatomical diagrams or

sketches, and sometimes (4) an important law or definition. With these data before them in writing, a class of students can intelligently follow the remarks which the professor makes, can carry out in concert with him the logical processes of assimilation and differentiation by which the diagnosis is reached. Without such objective reproduction of a case upon the blackboard, I firmly believe that, for all but a very few unusually well-trained minds in the audience, the clinical teaching is foggy and unprofitable. The class may "see" an endless series of cases in a session, but would not the "understanding" of fewer selected cases do much more toward their training for practical life? It may be said that all this writing on the blackboard is an useless drudgery, that the student should remember the points of a case. This is all very well for the simplest cases, presenting only a few physical characters for study, but when we come to deal with serious medical and surgical cases, in which enter a great number of considerations, where a diagnosis is only to be reached by induction from many data and by close inferential reasoning, or if we are studying cases on the borderland of new knowledge, I say that trusting to the memory of a mixed class of students is altogether vain,—it is overrating their mental powers, and by paying them this empty compliment we deprive them of what they come to us to obtain, viz.: training. Not only is it true that students seldom show ability to retain the data of a complicated case, but it is also true of medical men. How often do we see in the course of discussion at medical societies, members of fair standing ask questions and make remarks which conclusively prove that they have not *understood* the case presented or the paper read a few moments before they rose to speak. Perhaps I am not exaggerating if I say that the ability to comprehend and retain the elements of an oral medical communication is an evidence of unusual mental power and of careful training. How can we presume these attributes to exist in our pupils? No; I maintain that the young men who attend our clinics should have every thing presented in the most objective and tangible manner possible, should be made to participate in our

diagnostic reasoning, and should be given every opportunity for note-taking.

The practice of taking notes at clinics is, it seems to me, very important, and it is not open to the same objection as note-taking at didactic lectures. In a clinic conducted on the plan which I suggest, there is much beneficial repetition, time is consumed by writing on the blackboard, so that the student is not hurried in noting. The record of a number of cases thus analytically studied must prove invaluable to the intelligent and earnest student. At any time he can turn to such a case-book, and by its guidance conduct a course of reading—reading about the symptoms themselves, reading on the anatomical and physiological points noted down, reading on the pathology and pathological anatomy of the cases, etc.

I would ask every candid reader to compare the possible results of such clinical work with that following the exhibition of cases, with "remarks," as practised now at college clinics.

II. The college clinics should be made to supplement the great didactic chairs of the school. In other words, clinical and didactic teaching should be carefully correlated.

At the present time clinical teaching in our medical schools may, with perhaps some exceptions, be characterized as haphazard. Whatever turns up in the way of "interesting cases," is shown to the class of students. No attempt is made to follow a system in the presentation of cases, or to illustrate in the clinics the subjects which are, at the time, being taught didactically. Yet with foresight and a little trouble all this might be remedied. At the beginning of the session a conference of the didactic and clinical teachers in a school should be held, and a programme of didactic lectures upon medicine, surgery, and a few special subjects, constructed. If any changes become necessary in the order of lectures, the assignment of subjects from week to week, a memorandum should be sent to the clinical teachers interested. With such a coöperation as to plan, by some exertion, perhaps occasionally at a small expense, the clinical teachers could provide cases in illustration of the didactic lectures at the proper

time, *i. e.*, immediately after these have been delivered. Let us, by way of illustration, suppose that in the second week of January the professor of medicine has lectured upon organic diseases of the heart. During the third week of the same month, the professor of clinical medicine in the college could, by making an effort at collecting patients beforehand (even if necessary sending carriages for some of them), exhibit to the class a number of cases typical of the chief organic cardiac diseases—of all those which allowed the patients to leave their homes.

But, further, the clinical teaching outside of the college might thus be coördinated, to the immense benefit of the class. The professors of clinical medicine, physicians in the various hospitals of the city, should likewise be notified of the subject under study that second week in January, and they could select and arrange the material for hospital clinics upon organic cardiac diseases, thus enabling the students to see the bed-ridden, extreme cases of this class. If the services of outside clinical teachers could thus be coördinated and utilized, a medical school should have many attached to it, certainly at least one in each hospital. The title of professor of clinical medicine or surgery is one which most prominent hospital physicians would be pleased to have from a well-ordered medical school, and the conferring of the title, with perhaps a nominal honorarium, would be a small price for the school to pay for their services.

The clinical teaching of specialties would have to be independently arranged, yet even here the course could be systematized. The clinical professors of diseases of the eye and ear, of dermatology, or gynecology, of diseases of the throat, of diseases of children, etc., must in such a scheme be a law unto themselves. Yet even they should be kept informed of the weekly progress of teaching in the great didactic chairs, and often they would be able to illustrate the didactic lectures. For example, when the professor of medicine was lecturing on tuberculosis, could not the special clinics for diseases of the throat and for diseases of children place before the eyes of the students instructive examples of local and general tuberculosis? Otherwise, each special clinical

professor could plan his own course, classifying the cases which come within his specialty, and offering them to the class in a certain order, either one of his own devising, or one already known to the students as laid down in a text-book. In this way, it seems to me, that the student would learn more though he might "see" fewer cases.

I have followed such a plan, in the absence of any understanding between the didactic and clinical chairs in the medical school with which I am connected, for several years—in fact, since I began the clinical teaching of nervous diseases. I know the advantages of such a plan, and I also think I realize its drawbacks. Its advantages have been set forth in the preceding remarks. The objections to the plan of systematic clinical teaching in specialties are numerous but not serious. There is considerable difficulty in procuring cases, in engaging their attendance at a given clinic. One is sometimes disappointed, and that, too, after a solemn promise. Of course, if the patients who were expected to illustrate a certain lecture fail to put in an appearance, this lecture must be postponed, and cases out of order, rare or not, must be presented; or the opportunity may be taken to give a half didactic lecture on methods of examination, on previous cases, etc. Such breaks in the plan do not, in my experience, occur often enough to be serious. A second objection is that the lecture thus planned, and with its analytical study of cases, is less "interesting" or brilliant. I am ready to grant this, because I fully understand how the word "interesting" is employed by some students; it is synonymous with curious, showy, or exciting. The method which I have suggested, obliges the lecturer to adopt a conversational tone, to repeat statements, to be exact in the use of words, to pause to give demonstrations; all of which is opposed to oratorical display. It may also be urged that according to this plan the teacher has reached a diagnosis in the cases exhibited before they are presented to the class, and that the class is deprived of the privilege of seeing him make a diagnosis. This would be a valid objection if the clinic were for the purpose of "showing off" the professor's diagnostic skill, but for those who believe, as I do, that a

clinic is for the purpose of helping to train medical students, the making of a brilliant off-hand diagnosis by the teacher is vastly less important than a scientific analysis of a case, however "slow" it may appear to some members of the class.

III. College clinics might, it seems to me, also be used for the purpose of the personal training of individual students. This is, I believe, done to a certain extent, but it ought to be done much more. Earnest students can be invited to come to the clinic before and after the lecture, for the purpose of examining patients for themselves, under the guidance of one of the clinical assistants. In my experience assistants are always willing to take on this extra duty. The greatest difficulty in the way of any considerable extension of this personal instruction lies in a deplorably prevalent inertness of medical students. They are willing to crowd about an assistant who is examining a case, and "pick up" some knowledge easily, but very few are willing, in my experience, to do the only thing which can make such attendance profitable, viz., sit down with a patient, take his history in writing, mark the important symptoms, attempt a diagnosis, and submit the paper to the professor, or to one of the assistants, for correction and suggestion. The case thus worked up and corrected should be written at length, with diagnosis if necessary, and presented at the next clinic to the teacher. It is a matter of regret that so few, so very few, students seem to understand that three or four cases studied in this manner each week, would be worth more to them than the "seeing" of any number of cases in the usual way.

E. C. SEGUIN.

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